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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

Case No. C 03 - 5761

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.; WAFERTECH, L.L.C. and TSMC, NORTH AMERICA,

Plaintiffs,

v.

SEMICONDUCTOR MANUFACTURING INTERNATIONAL CORPORATION (*aka* SEMICONDUCTOR MANUFACTURING INTERNATIONAL (SHANGHAI) COMPANY, LTD. and SMIC) and SMIC AMERICAS,

Defendants.

COMPLAINT FOR

1) PATENT INFRINGEMENT;

2) TRADE-SECRET MISAPPROPRIATION;

3) VIOLATION OF THE LANHAM ACT (15 U.S.C. § 1126(b));

4) UNFAIR COMPETITION (CAL. BUS. & PROF. CODE §§17200 et seq.)

DEMAND FOR JURY TRIAL

INTRODUCTION

1. This case concerns Defendants Semiconductor Manufacturing International Corporation ("SMIC Shanghai") and SMIC Americas' (collectively "SMIC's") infringement, exploitation, and outright theft of Plaintiffs' Taiwan Semiconductor Manufacturing Company, Ltd.'s ("TSMC Ltd.") and WaferTech L.L.C.'s integrated circuit manufacturing technology, together with business trade secrets of Plaintiffs TSMC Ltd. and TSMC North America ("TSMC-NA") (collectively "TSMC"). SMIC has seeded its workforce, from the highest ranks of its management down to the process engineers who work on the chip fabrication line, with over 140 personnel from Plaintiffs and from TSMC affiliates, such as SSMC, in order to acquire and utilize their knowledge of TSMC's proprietary fabrication processes and business trade secrets. SMIC has used, and is continuing to misuse, TSMC's propriety information, and it has been infringing TSMC's United States patents, to compete unfairly against TSMC for the business of California and other U.S. based companies.

2. SMIC's misconduct has already led to an indictment, in Taiwan, of a former TSMC Quality Control Program Manager, Katy Liu, for illegally disclosing TSMC's proprietary process flows, fab layout, and operations information to SMIC. Further, on May 14, 2002, the Taiwan Hsinchu District Court preliminarily enjoined SMIC, and its President Richard Chang, from causing TSMC's existing or former employees to disclose or utilize TSMC's trade secrets.

3. Though SMIC and Richard Chang never contested the injunction, they have ignored it. SMIC has continued to misappropriate TSMC's trade secrets and engage in other acts of unfair competition. An analysis of semiconductor chips produced post-injunction by SMIC for California customers and the U.S. market reveals that SMIC is continuing to use TSMC's patented and trade secret process technology. Further, on information and belief, and in utter disregard of the indictments, SMIC continues to employ Katy Liu as a Director of QRC in the Quality Control Department of an SMIC facility in Beijing, even though SMIC falsely told TSMC she was let go.

4. This Complaint seeks an injunction against SMIC to prevent further patent infringement, trade secret misappropriation, and unfair competition, as well as compensatory and

punitive damages to redress and deter the ongoing injury to Plaintiffs being caused by SMIC's illegal practices.

THE PARTIES

5. Taiwan Semiconductor Manufacturing Company, Ltd. ("TSMC Ltd.") is a company organized under the laws of Taiwan that maintains its principal place of business at No. 8 Li-Hsin Road 6, Science Park, Hsinchu, Taiwan 30077, Republic of China.

6. TSMC Ltd. manufactures integrated circuits based on circuit designs provided by its customers, who typically do not have their own semiconductor manufacturing plant.

7. WaferTech, L.L.C. is a limited liability company organized under the laws of Delaware, with a principal place of business at 5509 N.W. Parker Street, Camas, Washington 98607. WaferTech, L.L.C. is a dedicated semiconductor wafer foundry that licenses and utilizes the patented and proprietary technology and systems of TSMC, Ltd.

8. TSMC-North America ("TSMC-NA") is a company organized under the laws of the State of California that maintains its principal place of business at 2585 Junction Ave, San Jose, California, 94134. TSMC-NA is wholly owned by TSMC Ltd., and serves as TSMC's exclusive sales agent in North and South America.

9. Upon information and belief, Defendant Semiconductor Manufacturing International Corporation is a Cayman Islands corporation, whose principal place of business and country of origin is 18 Zhang Jiang Road, Pudong New Area, Shanghai, 201203, People's Republic of China ("SMIC Shanghai"). On information and belief, SMIC Shanghai is also known as, and does business as, Semiconductor Manufacturing International (Shanghai) Company, Ltd. and/or SMIC. SMIC Shanghai is registered with the California Secretary of State to do business in California and has a registered agent for service of process, CT Corporation, at 818 West Seventh Street, Los Angeles, California, 90017.

10. Upon information and belief, Defendant SMIC Americas is a corporation organized and existing under the laws of the State of California that maintains its principal place of business at 45757 Northport Loop West, Fremont, CA 94538. SMIC Americas' registered agent for service of process is Simon S. Wang, located at 649 Varese Street, Pleasanton,

California. Upon information and belief, SMIC Americas is a wholly owned subsidiary of SMIC Shanghai, whose sole officer and director at the time of its incorporation was Richard Chang, the President of SMIC Shanghai.

11. Plaintiffs are informed and believe and thereon allege that, at all pertinent times herein mentioned, Defendants, and each of them, were the agents and/or alter egos of their Co-Defendant and shared a unity of interest with their Co-Defendant, and, in doing the things hereinafter alleged, were acting within the course and scope of such agency and with the permission and consent of their Co-Defendants. Defendants, and each of them, had and have actual or constructive knowledge of the events, transactions and occurrences alleged herein, and either knew or should have known of the conduct of their Co-Defendants and cooperated in, benefited from and/or ratified such conduct.

12. Upon information and belief, SMIC Americas is SMIC Shanghai's exclusive sales and marketing agent in California and North America. Upon information and belief, SMIC America's personnel are, and hold themselves out to be, employees of SMIC Shanghai.

JURISDICTION AND VENUE

13. This is an action arising under the laws of the United States, including 35 U.S.C. § 101 *et seq* (patent laws) and 15 U.S.C. § 1051 *et seq.* (Lanham Act). This Court has subject-matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338(a) and (b). This Court has supplemental pendent jurisdiction over Plaintiffs' state-law causes of action under 28 U.S.C. § 1367.

14. This Court has personal jurisdiction over SMIC Shanghai because SMIC Shanghai has purposely availed itself of the benefits of California by soliciting business and investments from California-based companies such as Broadcom, Xilinx, AMD, Atmel, ISSI and Marvell, by entering into contracts with California based companies, and by directing into California wafers and other semiconductor products embodying, or created using, TSMC's patented technology and/or misappropriated trade secrets. On information and belief, SMIC Shanghai has marketed and sold, and is continuing to market and sell in California products and services that embody Plaintiffs' patented technology and trade secrets, or that were made using

TSMC patented or trade secret processes, either directly, or through its agent SMIC Americas, or others. As a result of SMIC Shanghai's intentional conduct directed toward California, Plaintiffs have suffered injury in California.

15. This Court has general jurisdiction over SMIC Americas, because it is a corporation incorporated in and has its principal place of business in the State of California.

16. Venue is proper in this district under 28 U.S.C. §§ 1391 and 1400, because, *inter alia*, Defendants market, offer and/or sell infringing and misappropriated products and services to customers who reside in, or may be found in, this District, because SMIC Americas resides and is headquartered in this District, and because Defendants unfairly compete for TSMC's business within this District. This case involves causes of action for patent infringement, and therefore it qualifies as an Intellectual Property Case within the meaning of paragraph B.5 of this Court's General Order No. 44, and is subject to random assignment to any judge in this District and not on the basis of intra-District venue.

FACTUAL BACKGROUND

A. The "Fabless" Semiconductor Fabrication Model

17. Integrated circuits, or "chips," are today the building blocks of virtually every electronic device. Each of them contains millions or even tens of millions of electronic features (e.g., transistors, capacitors, etc…) that are integrated into multi-layer circuits that measure less than the size of a thumbnail. They are referred to as semiconductors because the circuits are fabricated on, and from, semiconductive material, primarily silicon. Semiconductor chips fall into various categories, such as central processor chips (e.g., Intel's Pentium™ microprocessors), memory chips that store data, and logic chips that perform pre-defined functions on data.

18. Chip design and manufacture typically proceeds as follows:

- A company decides to make a chip that will serve a certain function in a device. For example, the chip might perform signal processing in a cell phone, or on an ethernet card. The company must itself determine the general electronic and physical specifications that the chip must meet, and of course, what functions the chip must perform.

- The company then must design, or contract to have designed, the circuits and circuit features needed to accomplish all of the necessary functionality. The selection, layout, and interconnection of the circuits into a chip design is done using computer assisted design automation software that allows for optimization and miniaturization of the design.
- Once finalized, the design is converted into an electronic database that constitutes a virtual blueprint for the chip. Using this blueprint, "masks" are generated.
- Using the masks, the circuits then are fabricated in multiple layers on a "wafer" of silicon. The fabrication process involves thousands of extremely precise and complex manufacturing steps, including photolithography, sputtering, materials deposition, ion implantation and chemical/mechanical polishing.
- The resulting wafer, depending on its size, may contain hundreds of "die." The die are separated from each other and packaged in a protective cover, become the final "chip."

19. Some chip design companies, such as Intel and IBM, own their own fabrication plants, or "fabs." Because the building and operation of even a single fab requires a huge investment in infrastructure and technical expertise, however, a large number of chip design companies are "fabless"; they outsource the fabrication of their chips to an independent manufacturer with facilities dedicated to third party manufacture. These fabless companies—and even chip companies whose own fabs may lack technological capabilities or physical capacity to fabricate such semiconductor chips—rely on dedicated manufacturers such as TSMC to fabricate their chips.

20. Chips are designed to be fabricated using a particular process node, which refers to the smallest dimension of a feature of the integrated circuit, such as the dimension of a transistor gate. The smaller the chosen node, the less the amount of area that will be needed to fit all of the circuitry on a chip. However, the smaller the node, the more advanced and complicated the technology that is required successfully to fabricate and connect the circuits without causing unwanted materials and electrical interactions and failures, such as cracks,

current leakage, shorting, or interference. The process nodes in widespread use today are 0.35 micron, 0.25 micron, 0.18 micron, and 0.15 micron. More advanced fabs are beginning to offer 0.13 micron process. (0.13 micron is around $1/10^{th}$ the width of a human hair.) TSMC and a very few other fabs are focusing on the next generation of even smaller, deep sub-micron process nodes, 90 nanometer (0.09 micron) and 60 nanometer. (A nanometer is 1/1000 of a micron.)

21. To deploy a new process node at an existing multiprocess fab takes anywhere from 21-33 months. There is an initial R&D phase involving equipment selection and integration, development of the initial "process flow" or recipe, integration and qualification of the process, and qualification of the product design for the particular process flow. Qualification determines whether the manufacturing process is good enough to fabricate chip components, such as transistors or metal lines, that must last the lifetime of the chip under strenuous environmental conditions. Qualification involves manufacturing prototype chips, electrically testing them to assure they meet required performance criteria, adjusting one or more process steps and/or design to improve performance and yield, and retesting until the customer and the fab are satisfied with the results. This process must be repeated every time a new process node is introduced to a fab. In addition, each new chip to be made according to a specific process node must then be qualified for production. This deployment does not include the substantial time to construct the fabrication facility itself.

22. TSMC's process flows for each of its process nodes are unique and proprietary; each flow reflects thousands of processing and materials steps and refinements that TSMC has developed over years of research, development, testing, and trial and error. TSMC has optimized its process flows for manufacturability, performance and yield in areas such as device isolation, transistor construction and high performance interconnect. Each new level of miniaturization requires new advances in material selection and concentrations, layer thicknesses, doping profiles for implantation, process conditions (deposition ratios, energy levels and durations) and mask data processing. TSMC's process flows for each of its process nodes are protected with the highest level of confidentiality; they are maintained only at TSMC and at selected licensees, such as WaferTech, who are contractually bound to keep them highly confidential. TSMC's

process flows are not intentionally revealed to unlicensed manufacturers, such as SMIC.

B. TSMC's Founding and History

23. TSMC was created in 1987 with the vision of providing fabless integrated circuit design companies with state of the art fabrication capabilities and semiconductor foundry services that such companies could not afford to develop for themselves. TSMC was the first such dedicated semiconductor manufacturer in the world.

24. Since its inception, TSMC has become the leading foundry at most every process node. For example, at the 0.18 micron level, TSMC has shipped more semiconductor wafers than any other dedicated foundry in the world. It has seven fabs with 0.18 micron capabilities. TSMC's cycle times (the time from start to finish of wafer processing) are the shortest in the industry, while its yields (its percentage of usable chips) are the greatest. TSMC has achieved similar results in the cutting edge 0.13 micron and 90 nanometer nodes.

25. As a result of its focus, its continuing R&D investments, and its production expertise, TSMC has won countless awards and industry "firsts." By way of example:

- TSMC was awarded the 2002 Corporate Innovation Award "for pioneering and realizing the dedicated IC wafer fabrication business" from the IEEE (Institute of Electrical and Electronics Engineers), the premier electrical engineering society in the world. TSMC was the first Taiwanese company to receive this distinguished award.
- In December 2002, TSMC announced it had manufactured the first viable 25 nanometer (.025 micron) transistor. This transistor is considerably smaller than the transistors incorporated in current mass production, even in many of the most advanced semiconductor fabs. Its features are, in fact, smaller than the wavelength of the light used to create them during the lithographic process.
- A particular TSMC fab, Fab 5, received the Top Fab 2000 honor bestowed by Semiconductor International. The organization cited the fab's aggressive technological advances each year, from 0.35 micron in 1998, to 0.25 micron in 1999, to 0.18 and 0.15 micron in 2000.

26. None of these technological achievements came to TSMC without a heavy price; they were the result of many years of research and development, and enormous financial investment. In 2002, TSMC's R&D expenditure in New Taiwan Dollars was NT$ 11.7 billion, NT$ 10.6 billion in 2001 (a 47% increase over the prior year), and NT$ 5.1 billion in 2000 (a 115% increase over the prior year. This was on top of TSMC's previous R&D expenditures of over NT$ 11.2 billion from 1990-99.

C. WaferTech

27. WaferTech, located in Camas, Washington was initially established in 1996 as a joint venture between TSMC and three other companies. In 2000, TSMC acquired a majority interest of its joint venture partners in WaferTech.

28. WaferTech's production facility is an 8 inch wafer production facility modeled on a standard TSMC 8 inch fab. WaferTech has access to, and is licensed to use, TSMC's patented and proprietary information to manufacture semiconductor products. WaferTech manufactures semiconductor products in the range of .15 micron to .35 micron process nodes, primarily for U.S. customers of TSMC. These California customers include, among others, Altera, Marvell and ISSI, a number of which have recognized WaferTech with awards as an outstanding supplier.

D. TSMC North America

29. TSMC-NA was established in 1988, one year after the founding of its parent, to provide local account management, sales and customer support to North American chip designers. TSMC-NA is privy to and helps to establish TSMC proprietary marketing strategies and forecasts for the U.S. and North American markets. TSMC-NA has over 150 employees, twenty six of whom have Ph.D.'s (predominantly in technical fields), eighty nine have master's degrees, and the majority of the remainder have a bachelor's degree. Because of the nature of the foundry business, TSMC-NA's employees possess extensive technical knowledge in order to understand and address customers' needs.

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E. SMIC's Solicitation Of TSMC Employees And Rapid Ramp-Up Of Production Facilities.

30. SMIC Shanghai was established in April, 2000 by Richard Chang, shortly after he negotiated the sale of his former company, Worldwide Semiconductor Manufacturing Company ("WSMC") to TSMC, Ltd. SMIC Shanghai is registered in California as a Cayman Islands corporation, headquartered in Shanghai. The details of SMIC Shanghai's ownership are not fully known. TSMC is informed and believes, however, that one or more California corporations who are customers of SMIC also have ownership interests in SMIC Shanghai.

31. In 2001, SMIC began raiding TSMC employees who were working in various of TSMC's Taiwan facilities. One such TSMC employee, Katy Liu, a high ranking Program Manager of Quality & Reliability, was asked by SMIC, with the apparent knowledge of its President Richard Chang, to come to Shanghai to help interview prospective employees, including on information and belief, selected employees of TSMC. Indeed, according to documents discovered from Liu, Liu covertly served as a founding SMIC Project Team Member for approximately nine months before she was terminated by TSMC. To assist SMIC in its operations, Liu was directed to "pull out" for SMIC's use TSMC's training plan and materials (both in Chinese and English) that TSMC had developed to train newly hired technicians and engineers. A copy of the confirming email entitled "Need Information" sent to Ms. Liu while she was a TSMC employee by Marco Mora, SMIC's Vice President, Operations, is attached hereto as Exhibit A. SMIC's solicitation of TSMC employees continued for two years, even after such solicitation was enjoined by the Hsinchu District Court of Taiwan on May 14, 2002.

32. By January 2003, SMIC had hired away more than 100 TSMC employees who collectively had knowledge of virtually all of TSMC's proprietary technology and business trade secrets. This hiring included more than eighty employees from TSMC's departments of engineering, manufacturing, facilities administration, R&D, product test engineering, automatic system development, mask manufacturing, quality assurance, procurement and financial accounting. Among the more prominent employees hired away by SMIC were TSMC's Director of Research and Development, the Technical Director of TSMC's North Site and Fabs 4 and 5,

the Program Manager of Quality and Reliability, the Technical Manager of Research and Development, the Manager of TSMC's Thin-Film Department, and a Manager of its Technology Transfer Division, each of whom had broad access to a wide range of process recipes in the scope of his duties. In total, the employees hired by SMIC are named inventors on over 60 TSMC patents and, upon information and belief, had contributed to or helped develop countless trade secrets while employed at TSMC. Each of the following positions at SMIC were filled by these and other former TSMC employees:

- Director, Technology Development Dept.;
- Deputy General Manager of Operational Center;
- Director of QRC Quality Control Dept.;
- Director of No. 1 Wafer Factory;
- Engineer in Chief of Production Technology;
- Deputy General Manager, Technology Development Dept.;
- Deputy General Manager, Human Resources Dept.; and
- Academician of International Market Distribution.

33. While TSMC is informed and believes that SMIC misappropriated a broad range of TSMC's technology, SMIC specifically targeted TSMC's award winning Fab 5, one of the world's leading 0.18 micron process node facilities. SMIC solicited over sixty percent of the Senior Staff of Fab 5 to join SMIC, and it succeeded in hiring away the Director of Fab 5, who is now the Deputy General Manager of SMIC's Operation Center. SMIC also hired away at least twelve other managers, senior engineers and engineers from TSMC's Fab 5.

34. In addition to hiring employees from Fab 5 and other TSMC facilities, SMIC targeted employees from TSMC's affiliates. For example, TSMC is informed and believes that SMIC hired approximately 35 employees from Systems on Silicon Manufacturing Company ("SSMC"), a joint venture between Philips Semiconductors, TSMC and EDBI of Singapore, to which TSMC had licensed its 0.18 micron process flow. SSMC. By contrast, SMIC hired only a handful of employees from competing foundries in Singapore operated by companies such as

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Chartered Semiconductor and UMC, who were not privy to TSMC's proprietary process technology.

35. In 2002, SMIC also attempted to staff its California subsidiary, SMIC Americas, with key TSMC personnel, in some cases succeeding. For example, up until March 2002, TSMC-NA's manager for the Broadcom account, one of TSMC's most important California customers, was Hiang C. "Charles" Chan. Chan is now SMIC Americas' Vice General Manager. Chan had knowledge of TSMC's proprietary business information, such as TSMC's margins on its contracts with Broadcom, as well as specific TSMC work-arounds, process refinements, yield improvement techniques, confidential projections and other confidential information that would be of critical help to a competitor seeking to take Broadcom's business from TSMC. Following SMIC's hiring of Chan, the fabrication of certain chips made by TSMC for Broadcom was transferred to SMIC as a result, on information and belief, of Chan's misuse of TSMC's trade secret information.

36. In addition to soliciting TSMC's employees to disclose and utilize for SMIC their knowledge of TSMC's trade secrets, SMIC's executives actively solicited at least one of TSMC's employees, Katy Liu, TSMC's quality control manager, directly to steal TSMC's trade secrets for SMIC's use while she was still employed by TSMC. For almost six months Liu acted as a corporate spy for SMIC. SMIC regularly requested and received from Liu detailed information regarding the operation of TSMC's fabs including: the layout of its laboratory equipment; TSMC's mask shop layout and practices, design criteria, defect analyses, TSMC's usage and specification of raw materials such as gases used in semiconductor manufacturing, water, power and natural gas; and lists of TSMC vendors and equipment.

37. Having obtained information needed to replicate TSMC's physical plant and equipment, SMIC then directed Liu to steal TSMC's crown jewels. SMIC's Vice President of Operations wrote TSMC employee Katy Liu:

> I need a help from you to pull-out information from WSMC/TSMC. I think you can [ ] some help from your people or eventually you can ask to Shinmo.
>
> - Process flows

- Detailed process flow of 0.35um Logic (Part 1006) from Fab-1, including process target and equipment type
- Detailed process flow of 0.28um ROM from Fab-1, including process target and equipment type
- Detailed process flow of 0.25um 6T SRAM (ISSI customer) from Fab-1, Fab-2, and [ ] Fab-5, including process target and equipment type
- Detailed process flow of 0.25um Logic (TSMC) from Fab 1 and Fab-2, including process target and equipment type
- Detailed process flow of 0.22um Logic (TSMC) from Fab-1 and Fab-2, including process target and equipment type
- Detailed process flow of 0.18um Logic (TSMC) from Fab-2, including process target equipment type

The email concluded: "Sorry for the long list, but we need a lot of material to set up the new operation."

38. On December 12, 2002, following a search of Liu's home, Liu was indicted in Taiwan for disclosure of TSMC's trade secrets. Liu remains a fugitive from justice. TSMC is informed and believes that Liu is being harbored in Beijing, where she is employed by SMIC.

39. On information and belief, SMIC solicited and acquired from former TSMC employees other than Katy Liu proprietary trade secret information of TSMC. SMIC's management knew, or should have known, that the disclosure of such information violated the confidentiality agreements of TSMC and SSMC's employees, which such employees sign as a matter of course.

40. On March 14, 2002, the Hsinchu District Court of Taiwan issued a preliminary injunction against SMIC and its President, Richard Chang. The injunction prohibits SMIC and Richard Chang from inducing TSMC employees and ex-employees to disclose or utilize TSMC's trade secrects, and to cease hiring away TSMC employers above a specified job grade. Although SMIC and Richard Chang appeared in the action, they did not contest the injunction, which is still in effect. On information and belief, however, SMIC and Richard Chang have disregarded and violated the injunction, which has no extra-territorial effect.

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41. As a direct result of SMIC's misappropriation of TSMC's trade secrets and infringement of its patented inventions, SMIC has achieved an implausibly quick ramp-up of its production facilities and fabrication processes.

42. SMIC has also shown an uncanny ability rapidly to migrate to the smaller, 0.18 process node technology. Grace Semiconductor, for example, which is another manufacturer based in China, has set an "aggressive" timetable of 21-24 months to qualify its 0.18 process node. Miraculously, SMIC, with no track record, announced 0.18 micron process node, and, on information and belief, commenced 0.18 chip production in less than one year's time. On information and belief, SMIC could not have qualified its 0.18 micron process node with such astonishing speed without reliance on TSMC's proprietary technical and operational information misappropriated from TSMC.

43. TSMC has only recently been able to obtain samples of chips known to have been manufactured by SMIC. It has analyzed these chips using forensic processes to determine whether any TSMC-proprietary features or processing steps were used in their manufacture. The results confirm what the SMIC/Katy Liu misappropriation and employee raiding foreshadowed; SMIC has employed many proprietary TSMC process steps used to fabricate transistor structures, contacts, vias between circuit layers, and non-conducting (dielectric) features. TSMC's comparison of a particular, 0.18 micron chip first manufactured by TSMC for Broadcom with a comparable chip now being manufactured by SMIC for Broadcom has revealed identical or nearly identical structures in the SMIC chip structures that TSMC believes could only have been fabricated using TSMC's proprietary process steps. Some of the identical or nearly identical features in the SMIC chip are patented by TSMC, or resulted from the use of TSMC's patented processes.

44. In or around April, 2003, SMIC began manufacturing 0.18 micron chips for Broadcom that had previously been manufactured for Broadcom by TSMC. As set forth below, the 0.18 micron chips being made for Broadcom by SMIC incorporate, or were processed using, TSMC's proprietary 0.18 micron technology, and SMIC's offer for sale and sale of these chips in the United Staes infringes TSMC's U.S. patents.

F. SMIC's Marketing, Offering for Sale and Sale in California of Products Manufactured With TSMC's Patented and/or Proprietary Processes and Technology

45. Upon information and belief, SMIC is marketing, offering for sale and selling in California SMIC's fabrication services that infringe and/or utilize TSMC's patented and trade secret technology. Upon information and belief, SMIC is offering to sell and is selling semiconductor products to California and U.S. customers that incorporate, or are made, using TSMC's patented and/or trade secret processes.

46. Plaintiffs are informed and believe that SMIC approaches TSMC's existing customers in California and elsewhere in the United States, and offers to manufacture the same chips, at prices substantially lower than TSMC's prices. On information and belief, SMIC represents to prospective customers in California that its manufacturing processes are "TSMC compatible," or are so similar to TSMC's that switching to SMIC will involve little or no redesign. SMIC offers to sell its products to California and U.S. customers for direct shipment to the United States, and TSMC is informed and believes that SMIC, in fact, sells its products and services in the United States. California companies believed by TSMC to have been solicited by SMIC include, but are not limited to, Broadcom (located in Irvine), Marvell (located in Santa Clara), Xilinx (located in San Jose), Zoran (located in Sunnyvale), and Altera (located in San Jose).

47. SMIC's President Richard Chang, and other SMIC executives, regularly visit Northern California, and other points in the United States, in order to solicit business and employees. Upon information and belief, Richard Chang has spoken at semiconductor industry conferences and trade shows in the San Francisco Bay Area at least once every year, since at least 2001. As recently as September 2003 Richard Chang was scheduled to address the International Symposium on Semiconductor Manufacturing in Santa Clara. SMIC is a member of the Fabless Semiconductor Association, an industry trade group, which regularly conducts conferences in California that SMIC attends.

48. SMIC has also solicited employees in California. In one promotion for a speech in Santa Clara in 2001, after touting the foundry capabilities of SMIC, Richard Chang invited

attendees who "are thinking of a career change" to "bring your questions and your resume." Individualized meetings were then arranged between Richard Chang, other SMIC agents and prospective employees.

FIRST CAUSE OF ACTION

(Infringement of U.S. Patent No. 6.274,514)

(By TSMC Ltd. Against Both Defendants)

49. Paragraphs 1-48 above are incorporated herein by reference.

50. TSMC, Ltd. owns rights, title, and interest in U.S. Patent No. 6.274,514 ("the '514 patent," attached hereto as Exhibit B), entitled "HDP-CVD Method for Forming Passivation Layers With Enhanced Adhesion," issued on August 14, 2001. This patent discloses a new method for fabricating chips using high density plasma chemical vapor deposition processes.

51. Upon information and belief, SMIC has infringed one or more claims of the '514 Patent by, without authority, (1) selling and/or offering for sale in the United States products that are manufactured using the inventions claimed in the '514 patent, and/or (2) actively inducing and/or contributing to others' infringement of the '514 patent.

52. On information and belief, SMIC has had actual and constructive knowledge of the '514 patent, and SMIC's infringement of the '514 patent has been and is willful and will continue unless enjoined by this Court. Under 35 U.S.C. § 284, TSMC is entitled to damages for infringement and treble damages. Under 35 U.S.C. § 283, TSMC is entitled to a permanent injunction against further infringement. Under 35 U.S.C. § 285, this case is exceptional and TSMC is entitled to attorneys' fees accrued in pursuing this action.

SECOND CAUSE OF ACTION

(Infringement of U.S. Patent No. 5.923,088)

(By TSMC Ltd. Against Both Defendants)

53. Paragraphs 1-52 above are incorporated herein by reference.

54. TSMC, Ltd. owns rights, title, and interest in U.S. Patent No.5.923,088 ("the '088 patent," attached hereto as Exhibit C), entitled "Bond Pad Structure for the Via Plug Process" issued on July 13, 1999. This patent concerns the "bond pad structure" for a chip,

which are the structures on the chip to which wires and other connectors are attached to link the chip to the outside world.

55. Upon information and belief, SMIC has infringed one or more claims of the '088 Patent by, without authority, (1) selling and/or offering for sale in the United States products incorporating the inventions claimed in the '088 patent, and/or (2) by actively inducing and/or contributing to others' infringement of the '088 patent.

56. On information and belief, SMIC has had actual and constructive knowledge of the ''088 patent, and SMIC's infringement of the '088 patent has been and is willful and will continue unless enjoined by this Court. Under 35 U.S.C. § 284, TSMC is entitled to damages for infringement and treble damages. Under 35 U.S.C. § 283, TSMC is entitled to a permanent injunction against further infringement. Under 35 U.S.C. § 285, this case is exceptional and TSMC is entitled to attorneys' fees accrued in pursuing this action.

THIRD CAUSE OF ACTION

(Infringement of U.S. Patent No. 6,268,274)

(By TSMC Ltd. Against Both Defendants)

57. Paragraphs 1-56 above are incorporated herein by reference.

58. TSMC, Ltd. owns rights, title, and interest in U.S. Patent No.6,268,274 ("the '274 patent," attached hereto as Exhibit D), entitled "Low Temperature Process for Forming Inter-Metal Gap-Filling Insulating Layers in Silicon Wafer Integrated Circuitry" issued on October 14, 1999. This patent concerns a novel process for forming insulating layers on a semiconductor chip.

59. One of the inventors named on the '274 patent, Jowei Dun, was a Department Manager at TSMC before he left in November 11, 2000. Upon information and belief, he now works for SMIC.

60. Upon information and belief, SMIC has infringed one or more claims of the '274 Patent by, without authority, (1) selling and/or offering for sale in the United States, and/or importing products made according to the process claimed in the '274 patent, and/or (2) by actively inducing others' infringement of the '274 patent in the United States.

61. On information and belief, SMIC has had actual and constructive knowledge of the '274 patent, and SMIC's infringement of the '274 patent has been and is willful and will continue unless enjoined by this Court. Under 35 U.S.C. § 284, TSMC is entitled to damages for infringement and treble damages. Under 35 U.S.C. § 283, TSMC is entitled to a permanent injunction against further infringement. Under 35 U.S.C. § 285, this case is exceptional and TSMC is entitled to attorneys' fees accrued in pursuing this action.

FOURTH CAUSE OF ACTION

(Infringement of U.S. Patent No. 6,174,797)

(By TSMC Ltd. Against Both Defendants)

62. Paragraphs 1-61 above are incorporated herein by reference.

63. TSMC Ltd. owns rights, title, and interest in U.S. Patent No.6,174,797 ("the '797 patent," attached hereto as Exhibit E), entitled "Silicon Oxide Dielectric Material With Excess Silicon As Diffusion Barrier Layers," issued on November 8, 1999. This patent concerns a novel process for forming a barrier layer between a conducting layer and a non-conducting (or "dielectric") layer on a semiconductor chip.

64. Upon information and belief, SMIC has infringed one or more claims of the '797 Patent by, without authority, (1) selling, and/or offering for sale in the United States products made according to the process claimed in the '797 patent, and/or (2) by actively inducing others' infringement of the '797 patent in the United States.

65. On information and belief, SMIC has had actual and constructive knowledge of the '797 patent, and SMIC's infringement of the '797 patent has been and is willful and will continue unless enjoined by this Court. Under 35 U.S.C. § 284, TSMC is entitled to damages for infringement and treble damages. Under 35 U.S.C. § 283, TSMC is entitled to a permanent injunction against further infringement. Under 35 U.S.C. § 285, this case is exceptional and TSMC is entitled to attorneys' fees accrued in pursuing this action.

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FIFTH CAUSE OF ACTION

(Infringement of U.S. Patent No. 6,107,206)

(By TSMC Ltd. Against Both Defendants)

66. Paragraphs 1-65 above are incorporated herein by reference.

67. TSMC, Ltd. owns rights, title, and interest in U.S. Patent No.6,107,206 ("the '206 patent," attached hereto as Exhibit F), entitled "Method For Etching Shallow Trenches In A Semiconductor Body," issued on August 22, 2000. This patent concerns a novel method for forming shallow-trench isolation structures on semiconductor chips.

68. Upon information and belief, SMIC has infringed one or more claims of the '206 Patent by, without authority, (1) selling and/or offering for sale in the United States products made according to the process claimed in the '206 patent, and/or (2) by actively inducing and/or contributing to others' infringement of the '206 patent in the United States.

69. On information and belief, SMIC has had actual and constructive knowledge of the '206 patent, and SMIC's infringement of the '206 patent has been and is willful and will continue unless enjoined by this Court. Under 35 U.S.C. § 284, TSMC is entitled to damages for infringement and treble damages. Under 35 U.S.C. § 283, TSMC is entitled to a permanent injunction against further infringement. Under 35 U.S.C. § 285, this case is exceptional and TSMC is entitled to attorneys' fees accrued in pursuing this action.

SIXTH CAUSE OF ACTION

(Statutory Trade Secret Misappropriation Under Cal. Civil Code §§ 3426 *et seq*,)

(By All Plaintiffs Against Both Defendants)

70. Paragraphs 1-69 above are incorporated herein by reference.

71. Plaintiffs were, at all relevant times, and are in possession of technical and operational trade secrets relating to methods for conducting semiconductor fab operations and manufacturing integrated circuits. These include, but are not limited to fab equipment layout; laboratory equipment layout; mask shop layout and practices; equipment lists, configurations, specifications, and adjustments; raw materials sources, concentrations and characteristics; operational parameters; training information; process reliability information; and the many

proprietary steps and combinations of steps in TSMC's "process flows" created for TSMC's manufacture of chips at various process nodes. Plaintiffs were, and at all relevant times, are also in possession of business trade secrets, including without limitation secrets relating to marketing, pricing strategies, margins, and qualification factors for particular products and services.

72. Plaintiffs' technology and business trade secrets derive independent economic value, actual or potential, from not being generally known to the public, or to other persons such as SMIC, who can obtain value from their disclosure or use. As a general matter, these secrets provide Plaintiffs competitive advantages that manifest themselves in terms of, among other things, shortened cycle times, improved device performance, improved yields per wafer, and in some instances, even the ability to commit to manufacture a given product.

73. Plaintiffs have each made, and continue to make efforts that are reasonable under the circumstances to secure the secrecy of the above-described technology and business trade secrets by, among other things, requiring all employees to execute non-disclosure agreements, and by restricting access to trade secret information to employees who need to know them, and to customers or joint venturers only upon the execution of non-disclosure agreements.

74. SMIC has misappropriated Plaintiffs' trade secrets by improper means, including by acquiring TSMC's trade secrets with knowledge, or with reason to know, that the trade secrets were acquired by improper means. Those improper means include, without limitation, (a) inducing TSMC employees to steal and disclose to SMIC Plaintiffs' trade secrets in violation of the employees' non-disclosure agreements, and (b) receiving and using Plaintiffs' trade secrets for the benefit of SMIC while knowing, or having reason to know, that they had been acquired by unlawful means, such as by breach of a contractual responsibility or fiduciary duty, or by corporate espionage.

75. On information and belief, SMIC has used Plaintiffs' trade secrets, without Plaintiffs' consent while knowing, or having reason to know, that SMIC's knowledge of TSMC's trade secrets was derived from others who used improper means to acquire the trade secrets or who owed a duty to TSMC to maintain the secrecy of the trade secrets or to limit their use, or was acquired under circumstances giving rise to a duty by SMIC to maintain or limit the

use of such trade secrets. On information and believe, SMIC has used its knowledge of TSMC's trade secrets to manufacture integrated circuits, to develop, make and sell products and services for the California and U.S. market, to establish a significant market presence in the California, U.S. and world markets in astonishingly short order, to price its products at a substantial discount to what would have otherwise been possible had SMIC incurred its own research and development and ramp up expenses, and to compete directly and unfairly with Plaintiffs.

76. Defendants' wrongful conduct in misappropriating Plaintiffs' trade secrets, unless and until enjoined and restrained by this court, will greatly and irreparably injure Plaintiffs' business.

77. Plaintiffs have no adequate remedy at law for their present and threatened future injuries. This is particularly true because SMIC's use of Plaintiffs' trade secrets has allowed SMIC to penetrate a valuable market in an unnaturally short time, and to steal customers' business directly from Plaintiffs. Defendant SMIC has continued to flout the preliminary injunction issued by the Hsinchu District Court in Taiwan, which has no extraterritorial powers over SMIC. Plaintiffs, therefore, are entitled to injunctive relief prohibiting Defendants from continuing their disclosure and/or use of Plaintiffs' trade secrets and confidential information to provide services and to manufacture and sell chips for importation into the United States and elsewhere, and compelling SMIC to return all materials incorporating, disclosing, or derived from improperly acquired knowledge of such secrets.

78. Plaintiffs are entitled to damages for the actual loss caused by SMIC's misappropriation of its trade secret, and/or for any unjust enrichment SMIC has enjoyed by such misappropriation.

79. SMIC's misappropriation of TSMC's trade secrets was willful and malicious. California Civil Code Sections 3426.3(c) and 3426.4 thus entitle TSMC to an award of exemplary damages equal to twice its actual damages caused by the misappropriation, as well as Plaintiffs' reasonable attorneys fees.

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